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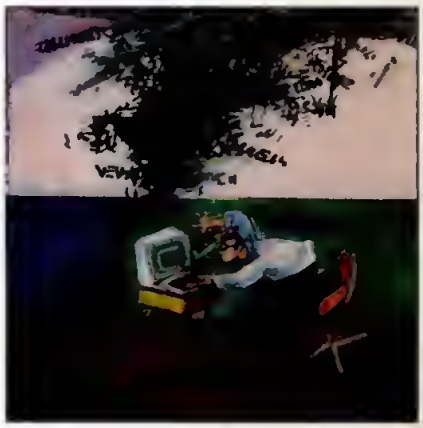

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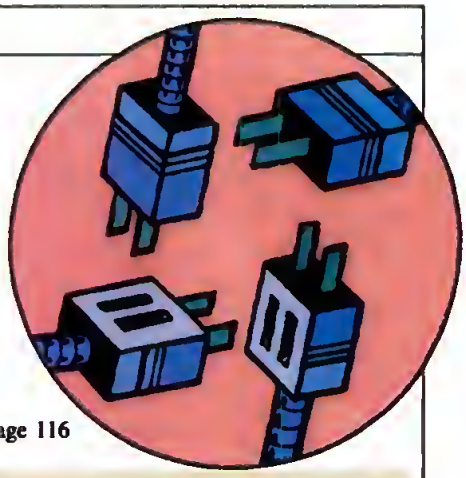

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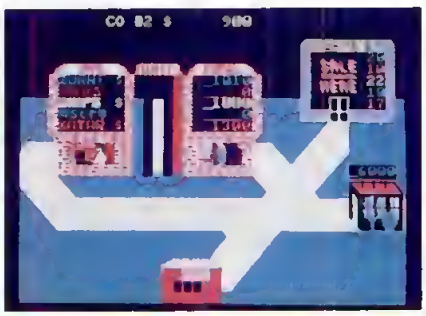


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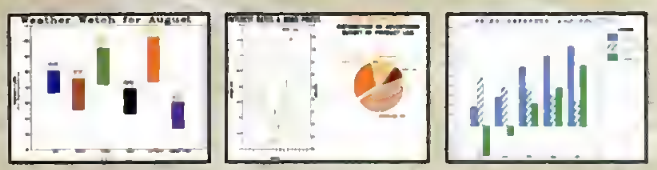

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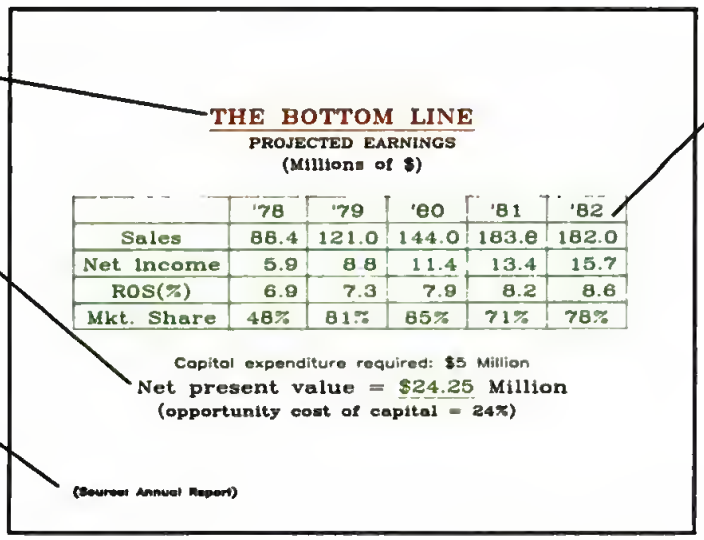

THE BOTTOM LINE

PROJECTED EARNINGS

(Millions of $)

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|---|---|---|---|---|---|
| Sales | 88.4 | 121.0 | 144.0 | 163.8 | 182.0 |
| Net Income | 5.9 | 8.8 | 11.4 | 13.4 | 15.7 |
| ROS(%) | 6.9 | 7.3 | 7.9 | 8.2 | 8.6 |
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(Source: Annual Report)

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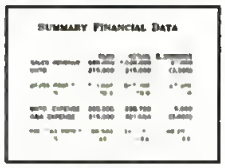

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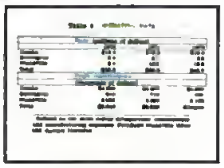
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Schedules

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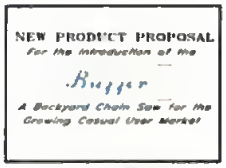

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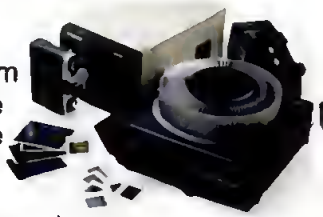

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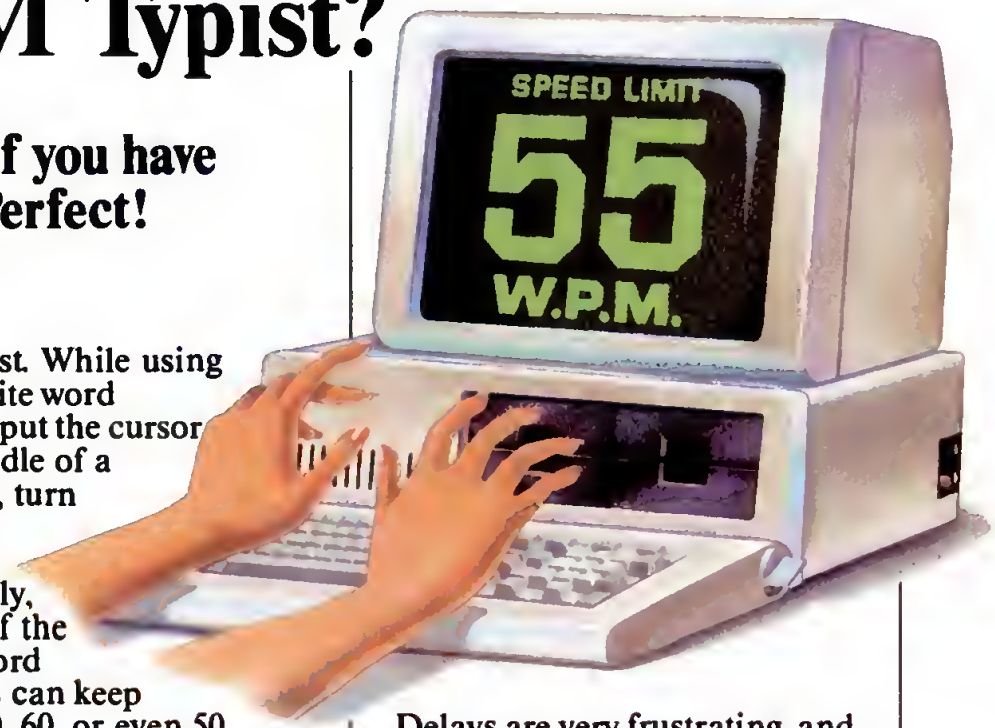


Try this test. While using your favorite word processor, put the cursor in the middle of a paragraph, turn insert on, and type. Surprisingly, very few of the leading word processors can keep up with 70, 60, or even 50 words per minute. WordPerfect keeps up easily at speeds well above 100*.

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# What's Inside

## The size, number, and capabilities of some of the mass storage systems for the IBM-PC reviewed in this issue startled even PC Magazine's jaded editors and writers.

It takes a lot to startle the jaded staff of *PC Magazine*. After all, consider the amount of hardware, software, and general computerware we are deluged with daily. We receive review copies of anything that has a connection, however tenuous, to the IBM PC. They range from the latest XT clone to a chocolate floppy disk. You can see that we cover a lot of ground.

*PC* contributing editor Winn L. Rosch, who is represented in this issue by reviews of six hard disks, Tecmar's *Treasure Chest* software system, and the National Memory Systems half-gigabyte hard disk drive, must be one of the most hardware-aware people this side of Silicon Valley. Yet even he was a little overwhelmed by the idea of reviewing six hard disks at one shot.

Of course, his reaction may have been partly due to *PC*'s auspicious timing. "I was not told about the project until after the first disk drive arrived," Winn reported. "I was sitting out on my front porch with one of my friends when suddenly, an air freight truck pulls up and delivers the latest word in hard disk drives. My friend thinks I have it made—$12,000 worth of equipment dropping down out of the clear blue sky."

The disk drive was the first of some six hard disks that Winn was reviewing for

us; soon the equipment was taking over his house like kudzu on a North Carolina back road.

"At one point, I had 175 megabytes of hard disks all connected up. I had more wires than there's spaghetti in a spaghetti factory."

To hook up all the drives, Rosch borrowed an extension chassis on which he was able to slide cards in and out like a riverboat poker player. The chassis worked fine, but he soon found that he was running into space problems of a different sort.

"I had the capability to set up 40 virtual drives," he explained. "I ran out of letters in the alphabet for disk drives."

### The Monster

The equipment that raised the most eyebrows back at *PC*'s New York office was National Memory Systems' half-gigabyte hard disk drive, nicknamed "The Monster" by those of us who made its acquaintance personally.

Technical assistant Mike O'Cone, who supervises the entry of all hardware systems into *PC*'s infamous Toy Shop, had the honor of receiving, unpacking, and assembling the half-gigabyte system. It's an experience he won't soon forget.

The system came in three pieces: the drive itself, the cabinet, and a Formica table-top. As was appropriate for such a complex system, it was packed very, very well—and was proportionately difficult to unpack. "It's a mechanical marvel," said O'Cone. "Sturdy, well put together, and weighs a ton."

It took the muscles of two of our editors—O'Cone and executive editor Mike Edelhart—to unpack the cabinet and install the slide racks that the main drive fits into. They then tried to set the disk drive into the slide rack that went into the cabinet.

They pushed. And pushed. Unfortunately, instead of staying still and allowing them to insert the drive, the cabinet decided to yield the floor, as it were. Edelhart and O'Cone ended up pushing

Photograph: Dennis Chalkin

the machine across the Toy Shop in a sort of Laurel and Hardy routine until The Monster finally found itself up against the side of a table and gave up the fight.

Poor O'Cone was actually a casualty in the next phase of the battle. The cabinet top was packed in a wooden crate, a somewhat unusual container in an office used to foam-filled cardboard boxes. Since we had no hammer or prybar available, he tried to make do with a screwdriver. "One of the nails tore open a finger," he complained, "and that's when I started beating the hell out of the crate."

Edelhart, O'Cone, editor Bill Machrone, and Winn Rosch, who'd flown in for the day from Ohio, spent half a day working with the system. How could they resist? It was the neatest toy they'd had to play within months.

### Asterisks

Rosch decided that a good way of testing the storage device was by filling it up and doing a search. So he loaded it with half a gigabyte of asterisks. He then took one asterisk out of the middle of the huge file and told the computer to find the discrepancy. It did—in about 4 minutes.

Yet another interesting piece of hardware that showed up in the planning of this issue was the Bernoulli Box, a new disk drive system that combines the advantages of the floppy disk drives and Winchester hard disk drives traditionally used with the PC. Mike Edelhart confessed that when he assigned the article, he was under the impression that the Box was still a somewhat rare item, even among hackers, but when he began mentioning it to our free-lancers, he was surprised to find that several of them already had the hardware up and running!

This actually should not have been that much of a surprise to Mike. We take pride that our writers are consistently on top of the microcomputer industry, and if they occasionally scoop our editors—well, that's one surprise we can always handle with grace. ■

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### *Tomorrow's solution today*

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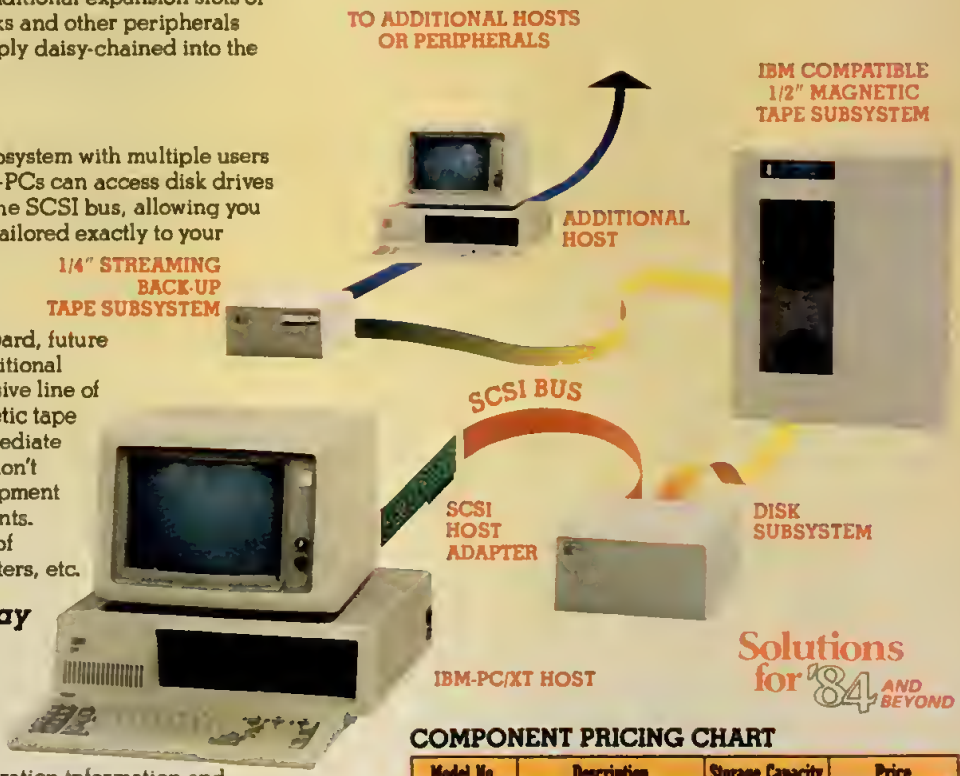


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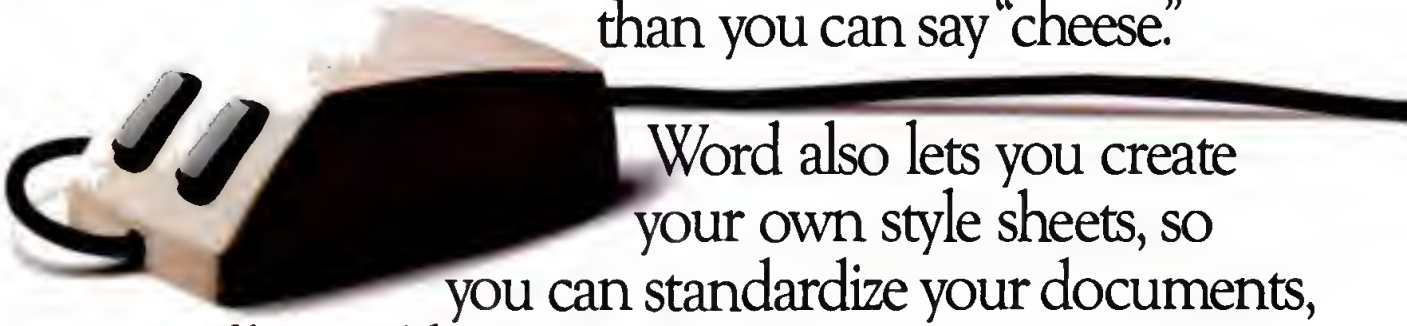

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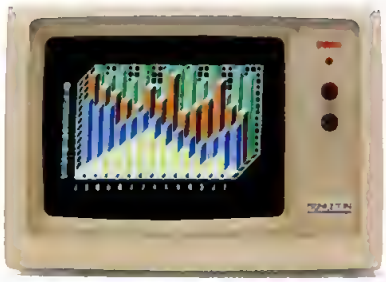

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